# CS 255 Business Requirements Document Template

**Benjamin White**

Complete this template by replacing the bracketed text with the relevant information.

This template lays out all the different sections that you need to complete for Project One. Each section has guiding questions to prompt your thinking. These questions are meant to guide your initial responses to each area. You are encouraged to go beyond these questions using what you have learned in your readings. You will need to continually reference the interview transcript as you work to make sure that you are addressing your client’s needs. There is no required length for the final document. Instead, the goal is to complete each section based on your client’s needs.

**Tip:** You should respond in a bulleted list for each section. This will make your thoughts easier to reference when you move into the design phase for Project Two. One starter bullet has been provided for you in each section, but you will need to add more.

## System Components and Design

### Purpose

*What is the purpose of this project? Who is the client and what do they want their system to be able to do?*

* DriverPass is a company that provides its students with online practice exams and training to help them prepare for driving tests.
* After realizing that 65% of students fail their first driving exam, DriverPass aims to provide practice exams and on-the-road training for their customers.
* To do so, our client wants to develop a cloud-based platform where users can book appointments for on-road driving training and classroom sessions.

### System Background

*What does DriverPass want the system to do? What is the problem they want to fix? What are the different components needed for this system?*

* DriverPass wants this system to be able to store information on appointments (client, date + time, package, driver, car), track online test progress, receive notifications from local DMVs whenever policy changes occur.
* Website, hosted by a cloud server.
* Client data must be protected, following cryptography standards
* Cloud storage will need to be configured to store relevant data.
* Databases should be utilized that contain sensitive client information (name, address, payment information, user name, password, privilege) and the server should be able to read and write to this database.
* Every user will be required to login with their credentials and reset their password if necessary
  + Users will have different privilege levels (admin, reception, student)
* Admin will have the ability to disable or enable a hard-coded dictionary of different package types.
* UI in accordance with client’s mockup

### Objectives and Goals

*What should this system be able to do when it is completed? What measurable tasks need to be included in the system design to achieve this?*

* When complete, the system will allow users to login, reset their password, book appointments, and collect the required information.
* User login
* Password reset
* Book / modify / cancel appointments
* Collect required information for appointments
* Store user data (name, address, contact info, payment info, training progress)
* Assign a car + driver to each successfully booked appointment
* Web and mobile compatible
* Receive policy updates from DMV

## Requirements

### Nonfunctional Requirements

*In this section, you will detail the different nonfunctional requirements for the DriverPass system. You will need to think about the different things that the system needs to function properly.*

#### Performance Requirements

*What environments (web-based, application, etc.) does this system need to run in? How fast should the system run? How often should the system be updated?*

* The system needs to run as a cloud-based web application
* Cloud provider should be ‘Software As A Service’ so that client does not need to worry about backups or security
* Speed is not a concern; however, the system needs to receive and display updates from the DMV in real-time.

#### Platform Constraints

*What platforms (Windows, Unix, etc.) should the system run on? Does the back end require any tools, such as a database, to support this application?*

* The system should run on Linux servers for maximum adaptability and scalability
* Display should scale to fit all devices (mobile)
* Database is required to store client and staff details

#### Accuracy and Precision

*How will you distinguish between different users?* *Is the input case-sensitive? When should the system inform the admin of a problem?*

* When a new user registers an account, they shall be associated with a unique ID number in the database
* Users will be required to login to their accounts to access the system
* Username and password shall be case-sensitive
* Error logging shall be stored in a .log file
* When .log file is written, the admin will receive an email with error details

#### Adaptability

*Can you make changes to the user (add/remove/modify) without changing code? How will the system adapt to platform updates? What type of access does the IT admin need?*

* The IT admin requires super user access
* They will be allowed to add/remove/modify users directly from the database (Robo3T) without the need to modify code
* Updates will be rolled out via a CI/CD pipeline so that no downtime will be required to update the system

#### Security

*What is required for the user to log in? How can you secure the connection or the data exchange between the client and the server? What should happen to the account if there is a “brute force” hacking attempt? What happens if the user forgets their password?*

* An 10-character password is required that adheres to following parameters:
  + At least 1 special character (!@#$%^&\*())
  + At least 1 digit (1234567890)
  + No repeating characters or digits
* Asymmetric keys will be utilized to verify certificate authenticity for both client and server
  + System will utilize Let’s Encrypt as a cost effective certificate authority
* Failed login attempts should be limited to 3 times per hour before account is locked
* Once account is locked, super user (IT admin) is alerted via email
* Only super user (IT admin) may unlock account

### Functional Requirements

*Using the information from the scenario, think about the different functions the system needs to provide. Each of your bullets should start with “The system shall . . .” For example, one functional requirement might be, “The system shall validate user credentials when logging in.”*

* The system shall require users to login or create an account
* The system shall validate user credentials when logging in
* The system shall receive updates from DMV regarding policy changes or new practice questions
* The system shall allow users to schedule road training or classroom sessions with staff members
* The system shall display account-specific details
  + Online test progress
  + Driver notes
  + Information
  + Driver photo + student photo
  + Special needs
* The system shall have a course management module that is accessible by admins to modify online tests and change training package details

### User Interface

*What are the needs of the interface? Who are the different users for this interface? What will each user need to be able to do through the interface? How will the user interact with the interface (mobile, browser, etc.)?*

* The users for this interface are as follows:
  + Supervisor
  + IT Admin
  + Secretary
  + Staff (drivers)
  + Customer
* The supervisor (Liam) must be able to modify customer package options, modify appointments, modify staff, and view schedule
* IT Admin must have all privileges as Supervisor plus the ability to reset account credentials
* The Secretary must have ability to schedule and modify appointments
* Drivers must have ability to view their schedule
* Customer must be able to view progress, schedule appointments, update account info

### Assumptions

*What things were not specifically addressed in your design above? What assumptions are you making in your design about the users or the technology they have?*

* Instructors will provide accurate training notes and feedback that customers can view
* SaaS Cloud Platform will provide secure connection with limited downtime and frequent backups
* All users have access to internet-connected machines

### Limitations

*Any system you build will naturally have limitations. What limitations do you see in your system design? What limitations do you have as far as resources, time, budget, or technology?*

* Connectivity to database / DMV connectivity
  + If either of these connections fail, users will be unable to book training packages, view their progress, or receive DMV updates
* Cloud Platform Pricing
  + Because most cloud platforms operate on a ‘Pay as you go’ platform, should DriverPass quickly expand, the cloud platform pricing may drastically increase
* Internet access
  + All functions of the system rely upon internet connectivity

### Gantt Chart

*Please include a screenshot of the GANTT chart that you created with Lucidchart. Be sure to check that it meets the plan described by the characters in the interview.*

Timeline

Description automatically generated